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Oceans and seas

Report of the Secretary-General*

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I. Introduction

1. By focusing on oceans and seas as its sectoral theme in 1999, the Commission on Sustainable Development is undertaking its first comprehensive review of the subject since its fourth session, in 1996. In its decision 4/15, the Commission called, *inter alia*, for a periodic overall review by the Commission of all aspects of the marine environment and its related issues, as described in chapter 17 of Agenda 21, and for which the overall legal framework is provided by the United Nations Convention on the Law of the Sea.[1] The need for such a review was reaffirmed by the General Assembly at its nineteenth special session, in 1997.[2] The Commission further recommended that the results of the Commission's review be considered by the General Assembly under the agenda item "Oceans and the law of the sea". That procedure was endorsed by the Assembly in paragraph 26 of its resolution 53/32 of 24 November 1998.

2. In addition to assessing progress in the implementation of previous Commission decisions on oceans, the seventh session of the Commission will provide a timely opportunity for member States to review and take stock of a number of relevant activities that took place in the context of the 1998 International Year of the Ocean. The Commission may wish to focus its attention on a few issues that are generally considered to be particularly problematic, such as the degradation of the marine environment and adjacent coastal areas through land-based activities; the unsustainable exploitation of marine living resources (both within coastal zones and in the high seas); marine pollution caused by shipping and offshore oil and gas activities; and the protection of fragile ecosystems, including coral reefs and marine biodiversity. The need for reliable and comparable scientific data to assess and advise on global trends, such as climate change, also requires attention, especially in considering the possible implications of sea level rise for small island developing States. In addition, ocean governance and the coordination of ocean-related activities, both by Governments and by international organizations, have been in the forefront of the global dialogue, especially in recent months. Those issues are not new and have been addressed in numerous international, regional, subregional and national forums, including the Commission, for some years. However, there seems to be a new impetus to take practical and effective actions now, following the successful awareness-raising efforts carried out worldwide during the International Year of the Ocean and the world exposition held at Lisbon (Expo'98) on the theme "The oceans: a heritage for the future". The Commission's focus on oceans and seas at the current session will provide a further opportunity to contribute to the ongoing global debate on these critical issues.

II. Current state of the ocean and main trends

3. As indicated above, several key concerns have dominated recent deliberations on ocean issues. But at the same time, it is now well accepted that the complex nature of the marine environment requires an integrated and multisectoral approach to the management of oceans and coastal areas, including considerations of the freshwater systems that drain into them, which incorporates economically, socially and environmentally sound solutions. As concluded by participants at the recent Second London Oceans Workshop, we cannot hope to solve problems in relation to fishing without considering the impact of land-based pollution, and we cannot consider the protection of species or habitats without considering fishing, shipping and land-based pollution. Action in one field must be integrated with that in other related fields.[3]

4. This approach builds on the basic premise contained in chapter 17 of Agenda 21 that the oceans and seas and their adjacent coastal areas form an integrated whole. Nevertheless, the United Nations Conference on Environment and Development (UNCED) identified several aspects of the marine environment that required particular attention. These programme areas closely relate to the most urgent problems affecting the oceans, as described above. A brief status report of these areas is set out below.

A. Coastal and marine areas

1. Nature of the problem

5. More than half of the world's population live in coastal areas (usually defined as the land area within 60 kilometres (km) of adjacent near-shore waters), and that proportion could rise to three quarters in the next 20 years. Two thirds of the largest cities are located in coastal areas, bringing with them diversified economic activities and employment opportunities. At the same time, immigration from inland rural areas to coastal cities is increasing, particularly in developing countries, raising the demand for housing, jobs, food, water and other goods and services. The incidence of poverty in coastal areas is increasing along with increasing pressures on limited resources. In addition to the human population, it is estimated that 90 per cent of the world's fish production is dependent on coastal areas

at some time in its life cycle. And marine, estuary and coastal ecosytems, such as coral reefs, wetlands, mangrove forests and seagrass beds, support biological diversity and valuable natural resources.[4]

6. Deterioration of the coastal and marine environment has largely been caused by land-based activities of humans as well as natural phenomena, such as climate change, floods and storms, which together threaten the sustainability of coastal resources. While land-based sources contribute about 80 per cent of marine pollution, the impact of natural disasters and sea level rise on coastal areas is devastating, especially for the most vulnerable populations of small island developing States and densely populated delta areas. The Food and Agriculture Organization of the United Nations (FAO) has calculated that the 1997/98 El Niño climate phenomenon affected over 60 countries, most severely in Asia and Central/South America, with devastating hurricanes, floods, drought or fires, causing far-reaching effects on crop, livestock and fish production and extensive human deaths and illness.[5] Human development-related threats to coastal ecosystems are thought to place more than half the world's coasts at a high or moderate potential risk of degradation, while for Europe the corresponding figure is 86 per cent, for Asia it is 69 per cent, and for Africa and South America it is about 50 per cent.[6]

7. Coral reefs, often called the rainforests of the sea because of their valuable ecosystems, are particularly vulnerable to the pressure of human activities, including coastal development, overexploitation and destructive fishing practices, impacts from inland pollution and erosion, and marine-based pollution. According to ReefBase, a global database covering more than 8,000 reefs worldwide, while coral reefs occupy less than one quarter of 1 per cent of the marine environment, they are home to more than one quarter of all known marine fish species. A 1998 report by reef experts from around the world provides the first map-based global analysis of the condition of coral reefs, concluding that 58 per cent of the world's reefs are potentially threatened by human activity, with reefs of South-East Asia more than 80 per cent at risk. Most United States reefs are threatened and almost two thirds of Caribbean reefs.[7] The International Coral Reef Initiative (ICRI), a partnership among eight Governments and several organizations founded in 1995, led a global awareness-raising campaign during its 1997 International Year of the Reef. Together with Australia's Great Barrier Reef Marine Park Authority, ICRI sponsored an international tropical marine ecosystems management symposium (Townsville, Australia, 23–26 November 1998), to renew and broaden ICRI's call to action in support of the significance of coral reef ecosytems to sustainable development. A particularly timely issue discussed at the symposium was the extent to which the increase in coral bleaching, which weakens and can kill corals, has been caused by global warming or natural causes, including the unusually high sea temperatures associated with the 1997–1998 El Niño phenomenon. Over the past 14 months, an estimated 40 to 50 per cent of the world's reefs have been hit by severe to catastrophic bleaching, including more than 88 per cent of inshore coral on Australia's Great Barrier Reef. Concluding that scientists do not yet have sufficient data to draw linkages between coral bleaching and climate change, the symposium recommended that a multidisciplinary task force be set up immediately to provide information on this matter to the Intergovernmental Panel on Climate Change (IPCC).[8]

2. International, regional and subregional cooperation

8. Since sectoral approaches to coastal development have not proven effective in arresting its deterioration, the concept of integrated coastal area management (ICAM) has gained recognition in recent years as a comprehensive, ecosystem-based approach to sustainable development and environmental conservation. The goal of ICAM is to improve the quality of life of human communities who depend on coastal resources while maintaining the biological diversity and productivity of coastal ecosystems.[9] Cooperation among various stakeholders whose interests may be in conflict is a necessary element and poverty eradication is an important aim. ICAM has been identified as the preferred process for the sustainable management of marine and coastal areas in Agenda 21 (chapter 17), ICRI, the United Nations Framework Convention on Climate Change and the United Nations Convention on Biological Diversity, which has adopted integrated marine and coastal area management as a key programme element to implement the Jakarta Mandate on Marine and Coastal Biological Diversity.[10] The implementation plan for the Jakarta Mandate is based on six basic principles: the ecosystem approach; the precautionary approach; the importance of science; the use of the Convention on Biological Diversity roster of experts on marine and coastal biological diversity; the involvement of local and indigenous communities; and appropriate levels of implementation. A number of United Nations and other international organizations, including the World Bank, FAO, UNEP, the Organisation for Economic Cooperation and Development (OECD) and IUCN, have

developed comprehensive guidelines for assisting countries to develop ICAM programmes.

9. The Global Environment Facility (GEF) is the major source for funding coastal management projects. To date, GEF has financed nearly 25 projects in the International Waters Operational Programme, with a total value about $177 million; that number is expected to rise to 40 projects with a portfolio value of roughly $400 million within the next three to five years. The United Nations Development Programme (UNDP) is the implementing agency for about half of the current International Waters projects, which include assisting 39 countries bordering the Black Sea, the Red Sea, the South Pacific and the Danube River Basin in formulating strategic action programmes for the protection and rehabilitation of those ecosystems. UNDP has also launched the Strategic Initiative for Ocean and Coastal Area Management to enhance the effectiveness of regional and national programmes and projects through, e.g., the identification and dissemination of best practices and lessons learned, training activities, such as TRAIN-SEA-COAST, an information exchange network and other capacity-building measures. To meet the challenge of deteriorating marine and coastal biodiversity, UNDP-GEF currently supports a $29 million portfolio of projects oriented towards the protection of biodiversity in marine and freshwater ecosystems, including in Lake Titicaca, Belize, Côte d'Ivoire, Yemen, the Comoros, India and the Dominican Republic. Project activities include exotic species control, enhancing marine biodiversity monitoring capacities and involvement of indigenous peoples in marine resource management.

10. The collection and dissemination of oceanographic data, which enable scientists to understand and predict the physical, chemical and biological changes that take place in the world ocean and apply this knowledge to societal needs, has been greatly facilitated by the development of satellite systems and a variety of innovative instruments. Sustaining those efforts is the Global Ocean Observing System (GOOS), coordinated by UNESCO/IOC, the World Meteorological Organization (WMO) and the International Council of Scientific Unions (ICSU). The Coastal Module Panel of GOOS has begun the design of optimal monitoring and forecasting systems for coastal seas, focusing on preserving healthy coastal environments, promoting sustainable use of resources, mitigating coastal hazards, and enabling safe and efficient marine operations. Regional GOOS programmes which support coastal monitoring systems have been developed in the southwest Pacific, the Mediterranean and Africa.

11. Cooperation at the regional and subregional levels is especially important in the development and practical implementation of ICAM programmes, which have received the support of a number of bilateral and international donors. For example, in eastern Africa, the Secretariat for Eastern African Coastal Area Management (SEACAM), which focuses on capacity-building and information-sharing activities, was established in 1997 at Maputo, with financial support from Sweden. A tripartite cooperation agreement between SEACAM, the Indian Ocean Commission and the Nairobi Convention Regional Coordinating Unit on coastal and marine protection is currently being negotiated. In West Africa, six countries have joined together in the Large Marine Ecosystem Project of the Gulf of Guinea, funded by GEF and implemented by UNDP, the United Nations Industrial Development Organization (UNIDO), UNEP and the National Oceanic and Atmospheric Administration of the United States. The Pan-African Conference on Sustainable Integrated Coastal Management (PACSICOM) was held at Maputo in July 1998, with support from Finland, UNESCO, UNEP and the African Ministerial Conference on the Environment (AMCEN). It adopted the Maputo Declaration, which, *inter alia*, affirmed Africa's commitment to incorporate the goals of chapter 17 on sustainable integrated coastal area management into national policies and programmes, and requested the Organization of African Unity (OAU) and AMCEN to consider convening, in 1999, a regional summit of heads of State and Government to focus attention on the hot spots in Africa's aquatic environment, both marine and freshwater.[11] PACSICOM led to an international conference held at Cape Town from 30 November–4 December 1998, organized by the Advisory Committee on Protection of the Sea (ACOPS), UNEP and the Government of South Africa. It adopted the Cape Town Declaration on an African Process for the Development and Protection of the Coastal and Marine Environment, particularly in sub-Saharan Africa, which has as its immediate aim the strengthening of the Abidjan and Nairobi conventions on the marine and coastal environment in Africa through, *inter alia*, the convening of a partnership conference in the year 2000, involving African countries and donor countries with an interest in assisting Africa's developmental and environmental goals.[12]

12. Other recent regional and subregional initiatives to promote integrated coastal and marine management include the agreement in June 1998 by the Contracting Parties to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region on a draft protocol on land-based sources of marine pollution, and further ratifications of its 1990 Protocol concerning

Specially Protected Areas and Wildlife, which is expected to enter into force soon; the Caribbean Marine Biodiversity Workshop, sponsored by the Governments of Jamaica and the United Kingdom (Montego Bay, 27–29 October 1998), which identified linkages between marine biodiversity, tourism and integrated fisheries management in the Caribbean region; the Asia-Pacific Economic Cooperation Oceans Conference (Honolulu, Hawaii, 14–16 October 1998), which agreed to pursue partnerships with the private sector and other stakeholders to ensure the sustainability of marine and coastal resources; collaboration among member countries of the South Pacific Regional Environment Programme (SPREP) in the celebration of the 1997 Pacific Year of the Coral Reef and subsequent development of a five-year Coral Reef Strategic Action Plan; Economic and Social Commission for Asia and the Pacific (ESCAP) and the International Centre for Living Aquatic Resources Management (ICLARM) efforts to apply ICAM in the Asian and Pacific region; the development by IUCN, in cooperation with local and European NGOs, of an action plan for the conservation and sustainable use of biological diversity in the Caspian Sea; the Mediterranean Action Plan/Mediterranean Environmental Technical Assistance Programme workshop in June 1998 to help identify new investments in ICAM through 2000; and ongoing work by the Mediterranean Commission on Sustainable Development, which has identified the sustainable management of coastal zones as a priority area. Furthermore, a new annex V to the 1992 Convention for the Protection of the Marine Environment of the North-East Atlantic (which entered into force on 25 March 1998), which extends its coverage to all human activities other than fisheries, was adopted by the Ministerial Meeting of the Parties to the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention) in July 1998. In addition, the Second London Oceans Workshop, sponsored by the Governments of Brazil and the United Kingdom (London, 10–12 December 1998), looked at coastal issues from a regional perspective, concluding that ICAM programmes need to include provision of adequate scientific education, collection of data and creation of dialogue between scientists, policy makers and other stakeholders, which regional collaboration can help to achieve.

13. A common theme of all these processes is the overwhelming role of land-based activities in the degradation of the marine and coastal environment. In response to a recommendation of UNCED urging global cooperation to address this issue, UNEP organized an intergovernmental conference in 1995 to agree to measures aimed at the prevention, reduction, control and/or elimination of the degradation of the marine environment from land-based activities. Based on the understanding that sustainable patterns of human activity in coastal areas ultimately depend upon a healthy marine environment, and vice versa, the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities was adopted on 3 November 1995 by 109 States. It was subsequently endorsed by the Commission on Sustainable Development at its fourth session and by the General Assembly in its resolution 51/189 of 16 December 1996. UNEP serves as secretariat for the programme. Since the Programme of Action has elicited particular interest on the part of Governments, non-governmental organizations and the United Nations system, some elements of its implementation plan are discussed in section III below.

B. Living marine resources

1. Nature of the problem

14. Recent estimates by FAO indicate that with regard to all major marine fisheries, 35 per cent are subjected to severe overfishing, 25 per cent are fully exploited and 40 per cent still offer scope for development. In other words, at least 60 per cent of world fisheries are either fully exploited or overfished.[13] This situation has been called a crisis in world fisheries.

15. While global fishery production continued to increase in 1996, this was wholly due to the fast-growing contribution from aquaculture (now accounting for 22 per cent of total fish production). According to FAO, marine fishery production began to stagnate in the second half of the 1990s, following two decades of expansion, due to an increasing number of fisheries reaching and surpassing their optimum long-term sustainability. FAO assesses that the total marine catches from most of the main fishing areas in the Atlantic Ocean and some in the Pacific Ocean may have reached their maximum potential years ago, and substantial total catch increases from those areas are unlikely.

16. The Commission on Sustainable Development, at its fourth session, noted with concern that significant fish stocks are depleted or overexploited, and considered that urgent corrective action is needed to rebuild depleted fish stocks and to ensure the sustainable use of all fish stocks. While welcoming the fact that progress had been achieved since UNCED in the negotiation of agreements and voluntary instruments for improving the conservation and management of fishery resources and for the protection of the marine environment, the Commission and the General

Assembly urged Governments to prevent or eliminate overfishing and excess fishing capacity through the adoption of management measures and mechanisms to ensure the sustainable utilization of fishery resources, and to undertake programmes of work to achieve the reduction and elimination of wasteful fishing practices.

17. Those recommendations are in accordance with existing international fisheries agreements. However, several important international instruments that could address the threats to fishery resources remain unimplemented. A key to the future regulation of fisheries is the United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, which though adopted on 4 August 1995, as of 31 December 1998 has only been ratified by 19 States out of 30 required and therefore has not yet entered into force. Nor has any State or entity undertaken to apply it provisionally, as allowed under the Agreement. The Code of Conduct for Responsible Fishing, adopted by the FAO Conference in 1995, and the FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (the Compliance Agreement) also need to be acceded to or applied with immediate effect; while the Code itself is voluntary, the Compliance Agreement is binding.

18. The recent report of the Secretary-General on oceans and the law of the sea (A/53/456), prepared for the General Assembly's annual debate on oceans and the law of the sea, noted that despite the adoption of those important agreements, fisheries management has generally failed to protect resources from being overexploited and fisheries from being economically inefficient. The report cites several key factors: lack of political will to make difficult adjustments, particularly in respect of access to fishery resources and fishing rights; persistence of direct and indirect subsidies; lack of control of fishing fleets by flag States; resistance of the fishing industry to changes; lack of participation of traditional fishing communities in the decision-making process; and continued use of destructive fishing practices.[14] Perhaps to address some of those perceived obstacles, the FAO Advisory Committee on Fisheries Research, at its first session, in November 1997, highlighted a need for a shift in emphasis in international applied research in fisheries from the traditional concern with resources to a future programme looking at the human dimension of fisheries.[15]

2. National achievements and international and regional cooperation

19. Governments in several forums have repeatedly stressed the crucial need for urgent action at the national, regional and international levels to address and prevent overcapacity in world fisheries. Excess fishing capacity caused by the overcapitalization of fishing inputs leads to too many vessels chasing too few fish. It currently affects many domestic fisheries throughout the world, and may be even more pervasive in the high seas due to their more open access and the fact that there is as yet no internationally agreed measure to control fishing capacity. It is one reason for the relative stagnation of world marine catches of major species as reported by FAO. FAO also notes that the problem may be exacerbated in the future as the expected demand for fish grows faster than world population, leading to rising fish prices and an increased incentive for further expansion of fishing capacity. Such a situation would create additional pressure on developing countries, including small island developing States, to meet their growing domestic demand for fish as food on the one hand — a problem likely to be aggravated by declining productivity of coastal fisheries due to coral reef degradation, as previously discussed — and to increase their share of international markets on the other.

20. Some achievements have been reported. Many countries have assimilated into national legislation large portions of the Code of Conduct for Responsible Fisheries, particularly the components on fishery management, fishing operations, aquaculture and the integration of fisheries into coastal area management. Several States have adopted or are elaborating national implementation plans, and some are formulating development plans for ecologically sound and sustainable aquaculture. FAO notes that improving product quality and safety has become a priority area of action for many countries, and that the greatest reductions in fishery losses have been attributed to improvements in post-harvest practices.

21. The FAO secretariat, together with member States, have taken a number of steps to promote the implementation of the Code of Conduct, including the elaboration and distribution of guidelines for fishing operations which utilize the precautionary approach to capture fisheries and species introduction, and the integration of fisheries concerns into coastal area management and aquaculture development. An interregional programme to support activities relating to the implementation of the Code began operation in 1998. Regional workshops on the adaptation of the Code were held in West Africa and the Mediterranean, and a technical consultation on sustainable

shrimp culture was held at Bangkok in December 1997. In March 1998, Canada and FAO sponsored an expert consultation on sustainable fishing technologies and practices to address ways and means of resolving the problem of discarding and dumping of living marine resources (discards are estimated by FAO to amount to 27 million tons of fish annually). And in October 1998, FAO, with the support of Japan, United States and the European Union, held a consultation on the management of fishing capacity, shark fisheries and the incidental catch of sea birds in longline fisheries, which considered a draft plan of action aimed at reducing incidental sea bird catches, as well as draft guidelines for the management of fishing capacity.

22. The FAO consultation referred to above, which had been preceded by a technical working group on the management of fishing capacity in April 1998, approved a draft international instrument entitled "Draft international guidelines/plan of action for the management of fishing capacity". The draft instrument will be submitted for adoption to the FAO Committee on Fisheries at its 15–19 February 1999 session. It will also be considered by the ministerial meeting on the implementation of the Code of Conduct for Responsible Fisheries to be held in Rome on 10 and 11 March 1999.

23. The draft instrument was elaborated within the framework of the Code of Conduct, and would also be a voluntary agreement. Its immediate objective is for States and regional fishery organizations, in the framework of their respective competencies and consistent with international law, to achieve worldwide by 2003/2005 an efficient, equitable and transparent management of fishing capacity. It further specifies, *inter alia*, that States and regional fishery organizations, when confronted with an overcapacity problem which undermines the achievement of long-term sustainability outcomes, should endeavour to limit initially at existing level and progressively reduce the fishing capacity applied to affected fisheries. Furthermore, where long-term sustainability outcomes are being achieved, it nevertheless urges States and regional fisheries organizations to exercise caution. The draft instrument also calls for appropriate support to be provided to developing countries on issues related to the management of their fishing capacity.[16]

24. Also included in the various recommendations to reduce global fishing capacity are calls for the reduction and progressive elimination of subsidies and other economic and fiscal incentives that directly or indirectly promote overcapitalization. Although data on fleet capacity is generally incomplete and the issue is extremely complex, FAO has studied the question as part of its overall review of initiatives to address overcapacity at the global level, and has concluded that a number of countries have taken major steps over the last decade, including strengthening fisheries management methods and reducing economic incentives. While these seem to have contributed to the observed stabilization or reduction in fishing capacity in some areas, such as the northern Atlantic, capacity has increased substantially in other areas and the global situation remains critical.[17]

C. Marine pollution

25. With regard to the prevention and control of marine pollution from shipping and related activities, the International Convention for the Prevention of Pollution from Ships 1973, as modified by the Protocol of 1978 (MARPOL 73/78), and the 1990 International Convention on Oil Pollution Preparedness, Response and Cooperation (OPRC) have proven effective in the control and management of sea-based sources of marine pollution. Statistics collected by the International Maritime Organization (IMO), which oversees those two Conventions, show that their progressive implementation and enforcement have reduced considerably marine pollution from shipping, and that more States have improved their preparedness and response to marine pollution incidents. IMO has also reported that the dumping of industrial wastes and other matter at sea has been nearly eliminated by Contracting Parties to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter of 1972 (London Convention). However, as recent press reports have made clear, a major gap in enforcing this and other international marine conventions, such as the United Nations Convention on the Law of the Sea, occurs when polluting ships have not acceded to those agreements or fly non-Party "flags of convenience".[18] In the view of some major international trade union groups, the lack of flag State implementation and the absence of enforcement provisions constitute a serious weakness in the international regulatory regime.[19] The 1996 Protocol to the London Convention will eventually replace the London Convention when the Protocol enters into force after accession by 26 States, of which at least 15 are Contracting Parties to the London Convention; as of 31 December 1998, only three States have acceded to the Protocol. The 1996 Protocol will strengthen the globally applicable rules on dumping of wastes and other matter at sea by taking a precautionary and proactive approach and incorporating the polluter-pays principle. It further emphasizes the need for technical cooperation between Contracting Parties, and for

the establishment of assistance mechanisms between developed and developing country Parties. Under the 1996 Protocol, the export of wastes and other matter for the purpose of dumping at sea will be prohibited.

26. In response to specific concerns raised in chapter 17 of Agenda 21, the IMO secretariat and its governing bodies have undertaken a number of new or expanded initiatives with respect to prevention of air pollution from ships; new special sea areas and particularly sensitive sea areas; irradiated nuclear fuel on board ships; traffic separation schemes and mandatory ship-reporting systems; port State control; and the preparation of measures against tributyltin-based anti-fouling paints for ships.

27. Progress by the IMO Marine Environment Protection Committee (MEPC) to draft a new Protocol to the OPRC Convention to cover hazardous and noxious substances has reached its final stage, and an international conference is planned for the year 2000 with a view to its adoption. Separately in July 1998, the 15 European countries that are signatories to the OSPAR Convention agreed to a far-reaching strategy for preventing the dumping of radioactive wastes and other hazardous substances in the North-East Atlantic. And the Pacific Ocean Pollution Prevention Programme of SPREP aims at coordinating regional efforts among 14 South Pacific countries to address shipping-related pollution. In 1998, UNEP convened the first session of the Intergovernmental Negotiating Committee for an International Legally Binding Instrument for Implementing International Action on Certain Persistent Organic Pollutants. The second session is being held at Nairobi from 25 to 29 January 1999. The expectation is for a convention on persistent organic pollutants to be adopted in 2000.

28. Following UNCED's request for IMO to develop legally binding provisions regarding ballast water management to prevent the introduction of harmful aquatic organisms through ships' ballast water, MEPC developed a set of guidelines for the control and management of ships' ballast water, which were adopted by the IMO Assembly in 1997. IMO is continuing work on the development of mandatory regulations on ballast water management and associated implementation guidelines, including a model ballast water management plan. The aim is to complete all preparatory work by 1999 so that an international conference can be convened in the biennium 2000–2001 to adopt the regulations.[20]

29. An important area requiring further attention relates to offshore oil and gas exploration and production activities, which are not covered by MARPOL 73/78 and for which there is no international treaty instrument regulating this source of marine pollution. There are, however, a number of regional agreements, including the Helsinki and Barcelona Conventions and the Kuwait Protocol. It may be recalled that chapter 17 of Agenda 21 called on States, acting individually, bilaterally, regionally or multilaterally and within the framework of IMO and other relevant international organizations, to assess the need for additional measures to address degradation of the marine environment from offshore oil and gas platforms. In response, IMO addressed the matter of marine pollution from offshore platforms and reported to the Commission at its fourth session, in 1996, that States had concluded that the regional approach should be encouraged, and IMO saw no compelling need at that time to further develop globally applicable environmental regulations. The argument in favour of that approach was that offshore installations were generally fixed and therefore only posed a threat of local pollution, which could be dealt with by national or regional agreements. The Commission took note of that conclusion, and encouraged States to continue their review of the need for further measures. Subsequently, IMO/MEPC assessed the situation again in July 1996 and found that while offshore oil and gas activities had accelerated in many parts of the world, expectations for regional and national regulations had not been fulfilled. MEPC noted that in many regions no mechanisms controlling discharges from offshore activities existed, and recommended a new assessment of current national, regional and global regulations.[21]

30. In response to those concerns, an international expert meeting on environmental practices in offshore oil and gas activities was held at Noordwijk, the Netherlands, in November 1997. Additional consultations are anticipated, and the Second London Oceans Workshop, held in December 1998, endorsed the view that further meetings should be held on a regular basis which would bring together representatives of Governments, industry, regulators, NGOs and other interested parties for the exchange and dissemination of information. It was recommended that those meetings focus on guidelines for satisfactory environmental management systems and the regional environmental goals that such systems should aim to achieve.[3]

III. Issues requiring further attention

A. Global Programme of Action

31. The aim of the Global Programme of Action for the Protection of the Marine Environment from Land-based

Activities (A/51/116, annex II) is to facilitate the realization of the duty of States to preserve and protect the marine environment, in accordance with articles 207 and 213 of the United Nations Convention on the Law of the Sea. It is not a legally binding instrument; it was designed to be a source of conceptual and practical guidance, setting forth desired actions to be taken at the national level and through regional and international cooperation. It is based on preventive, precautionary and anticipatory approaches, and urges States to develop economic incentives, where appropriate, such as the polluter-pays principle, so as to avoid degradation of the marine environment.

32. The Global Programme of Action states at the outset that its implementation will require new approaches by and new forms of collaboration among Governments, organizations and institutions with responsibilities and expertise relevant to marine and coastal areas, at all levels — national, regional and global — including the promotion of innovative financial mechanisms to generate needed resources. Regional and subregional cooperation are seen to be crucial, and a revitalization of the UNEP Regional Seas Programme is an important ancillary goal. Another goal is the development of a clearing house mechanism, i.e., a referral system providing access to current sources of information, practical experiences, and scientific and technical expertise, as well as possible funding sources. UNEP is to coordinate the development of the clearing house in collaboration with United Nations agencies and organizations which have lead responsibility for a number of specific pollutant source categories, as defined in General Assembly resolution 51/189. In addition to those responsibilities, the International Atomic Energy Agency (IAEA), UNESCO/IOC and UNEP have already joined forces in an active inter-agency programme on marine pollution, providing data quality assurance services to regional programmes and national laboratories.

33. The Global Programme of Action also requires UNEP to convene periodic intergovernmental meetings, in close cooperation with other relevant organizations and institutions, to review overall progress on its implementation as well as the results of scientific assessments of the impact of land-based activities on the marine environment, including that currently under preparation by the United Nations-sponsored Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP). Originally planned for 2000, the UNEP secretariat is now proposing that the first formal intergovernmental review take place in 2001 or 2002, with perhaps a preliminary review earlier.

34. Although no formal assessment of its implementation has yet taken place, some preliminary observations are possible three years after the adoption of the Global Programme of Action. At the invitation of the Government of the Netherlands, a coordination office for the Global Programme of Action was opened at the Hague in November 1997. As of January 1999, the staffing is not yet fully completed and the Director is under recruitment. To facilitate inter-agency cooperation, especially with respect to the clearing-house mechanism, the UNEP Governing Council, at its nineteenth session, invited the ACC Subcommittee on Oceans and Coastal Areas to perform the functions of an inter-agency steering committee on technical cooperation and assistance for the Global Programme of Action, in collaboration with the ACC Subcommittee on Water Resources, and with representation from relevant regional and international organizations.[22] To date, discussions of future responsibilities are at a very preliminary stage. A draft strategy paper identifying proposed actions was considered by an ad hoc meeting of the ACC Subcommittee on Oceans and Coastal Areas at the Hague in June 1998; the Global Programme of Action coordination office will convene a consultation with non-governmental organizations to discuss the matter further in April/May 1999. UNEP has indicated that it is planning to convene a technical meeting in 1999 to establish steering or technical implementation groups for the central clearing house mechanism. An interim central home page of the Global Programme of Action coordination office was recently opened (http://www.chem.unep.ch/gpa) and an initial persistent organic pollutants home page has been developed by UNEP. Plans are under way to initiate the heavy metals component of the clearing house. But the development of the clearing house has been hindered by the fact that the governing bodies of only three agencies (the World Health Organization (WHO), IAEA and UNESCO/IOC) have adopted resolutions in support of the Global Programme of Action, and both WHO and IMO have indicated that they would be unable to take the lead agency role for their respective source categories without additional financial resources. FAO has in principle agreed to collaborate in the implementation of the Global Programme of Action, in particular with reference to the subject areas covering nutrients and sediment mobilization. Governments are urged to follow up expeditiously their agreement, as contained in General Assembly resolution A/51/189 and UNEP Governing Council decision 19/14 A, to take the necessary action within the governing bodies of relevant United Nations organizations and programmes and other competent international and regional organizations for the formal endorsement of the Global Programme of Action,

and to accord appropriate priority to its implementation in their respective work programmes, in accordance with each organization's mandates.

35. Perhaps the most substantive activities in support of the Global Programme of Action have been at the regional level. UNEP has convened a series of seven regional technical workshops during 1996–1998 under the auspices of its Regional Seas Programme, and two more are planned for 1999. Governments in all the workshops to date have identified sewage as a major priority pollutant, and as a result UNEP is considering the possibility of convening a global conference by the year 2000 to address sewage as a major land-based source of pollution affecting human and ecosystem health.[23]

36. In June 1998 at the Hague, UNEP convened the first interregional seas programme consultation, which brought together the secretariats and coordinating units of the UNEP Regional Seas Programme as well as other regional organizations. Among the issues discussed was the implementation of the Global Programme of Action, including the clearing house, at the regional level. Draft regional programmes of action supporting the Global Programme of Action have been developed or are under preparation in several regions. The Global Programme of Action coordination office is promoting the adoption of those regional programmes, and will facilitate the development of projects for funding by appropriate organizations in several regions.

37. Funding remains a major barrier to implementation of the Global Programme of Action. UNEP has reported that whereas projects that support the goals of the Global Programme of Action may be eligible for funding by GEF, the Global Programme of Action per se is not. Thus, the development and maintenance of the clearing house, for example, will need additional funding from other sources. The mobilization of financial resources, including from the private sector, is expected to be a major activity of the coordination office.

38. Those and other issues were discussed at an informal intergovernmental consultation to review the status and further steps in implementation of the Global Programme of Action, convened by UNEP at the Hague in May 1998. UNEP reported to the meeting that a number of relevant activities have been initiated by UNEP over the last two years; however, many have been conducted on an ad hoc basis, due largely to inadequate human resources.[24] Concern over a lack of momentum in implementing the Global Programme of Action was also expressed at the recent Second London Oceans Workshop, which concluded that it is essential to revitalize the Global Programme of Action.[3] It is hoped that the completion of the restructuring of the UNEP secretariat and the resolution of other institutional delays in the United Nations system will help to facilitate implementation of the Global Programme of Action. The international community also needs to highlight the issue as a matter of priority on the agendas of all relevant intergovernmental bodies.

B. Fisheries management

39. As observed in section II above, following expansion of global catches during the 1970s and 1980s, a stagnation in total yield of marine capture fisheries has become apparent in the second half of the 1990s, which is considered to be the result of an increasing number of fisheries reaching and surpassing their optimum long-term sustainability. On a more positive note, however, in a 1997 study of future prospects of marine fishery landings, FAO concluded that an increase in fisheries production of at least 10 million and as much as 20 million tons annually would be possible if fishing pressures were relaxed, allowing stocks to rehabilitate, and if effective management measures were adopted, including the reduction of discarding and wastage.[25]

40. The elements needed for good governance in the fisheries sector are well recognized: the need for a strategy explicitly aimed at ecological, economic and social sustainability; effective fisheries agencies and research institutions; a cooperative, organized and informed fisheries sector; adequate laws and legal institutions, including deterrent monitoring, control and surveillance; and appropriate linkages with regional and international bodies. An essential requirement for securing long-term sustainable fisheries and aquaculture is the full implementation of the Code of Conduct for Responsible Fisheries, adopted by the FAO Conference in 1995, and other international fishery instruments. The political will to accept and operationalize those agreements and to adopt well-conceived national policies to support them are fundamental to facilitating the required structural change in the fisheries sector. And as FAO has noted, the complex array of internal and external pressures acting on the fisheries sector call for responsible, timely, coordinated and comprehensive responses by national fishery administrations and regional fishery bodies if governance is to be strengthened. Priority action is required by coastal and fishing States towards reducing overcapacities in fisheries, eliminating by-catch, in particular of endangered species, and improving information

systems, especially regarding high seas fishing fleets. But a global approach is also needed to address the global overcapacity problem. And the real value of fish and fish products will have to be acknowledged, in terms of economic and social contributions as well as the environmental costs (for example, of uncontrolled aquaculture), especially for the developing countries, whose net fisheries exports have now grown to be worth an estimated $13 billion annually.

41. The precautionary approach to global fisheries management is a central feature of the FAO Code of Conduct and the United Nations Fish Stocks Agreement. As elaborated in Principle 15 of the Rio Declaration on Environment and Development, the precautionary approach may be defined as follows: "Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation." An array of precautionary instruments for the preservation of marine resources has been described in the recent report of the Independent World Commission on the Oceans (IWCO) to include protected areas and access restrictions (such as marine reserves, quotas, closed seasons); property rights (e.g., individual transferable quotas, fishing licenses); taxes and charges; penalties and fines; and financial incentives.[26]

42. One of those instruments, the creation of "no take" marine protected areas (MPAs) to reduce overfishing and rebuild declining fish populations, has received increasing attention by Governments and regional and non-governmental organizations in recent years. The existing number of MPAs (1,324) are estimated to cover less than 1 per cent of the planet's marine area, so the scope for enlargement is vast.[27] The largest MPA in the world is the 350,000 km^2 Great Barrier Reef Marine Park in Australia, and that country has in 1998 claimed the second largest MPA as well, the Great Australian Bight Marine Park. Almost all MPAs have been designated by national authorities, since legal and practical obstacles would seem to prevent them in the high seas; however, one exception is the Indian Ocean and Southern Ocean Whale Sanctuaries established by the International Whaling Commission. Australia has proposed the development of a global representative system of marine protected areas to encourage States to establish MPAs within and across national jurisdictions.

43. Another proposal to help manage sustainable fisheries is eco-labelling or accreditation. The Marine Stewardship Council (MSC), founded in 1996 as a joint initiative between Unilever Ltd. and the World Wide Fund for Nature and now an independent, non-governmental, non-profit body based in the United Kingdom, launched its accreditation scheme in June 1998. It seeks to establish a system of certification for individual fisheries or fish stocks, as well as fishing practices, gear and individual fishers, certifying that fish have been caught in a sustainable manner, from boat to consumer. MSC will hold a conference on that and other fisheries issues in New York on 19 and 20 April 1999, to coincide with the opening of the seventh session of the Commission.[28] Separately, FAO held a technical consultation on the feasibility of developing guidelines for eco-labelling of marine capture fisheries in October 1998, which agreed, *inter alia*, that any international guidelines on eco-labelling that might be developed should be consistent with the Code of Conduct for Responsible Fisheries, as well as ongoing related work, including work by the World Trade Organization; should be of a voluntary nature and market-driven; should recognize the sovereign rights of States and comply with all relevant laws and regulations; should be non-discriminatory and allow for fair competition and free trade; should establish clear accountability; and should be based on the best scientific evidence. No agreement was reached on the practicality and feasibility of FAO drafting technical guidelines for eco-labelling, but it was suggested that further work might be carried out to assess the costs and benefits of eco-labelling and whether it would result in real net gains to fisheries.[29]

44. The issue of subsidies is a complex one. The first comprehensive effort to measure global subsidies to the fishing sector was undertaken by FAO in 1992, and estimated that as of 1989 the world was paying $124 billion to land $70 billion worth of fish, leaving a level of subsidy of $54 billion annually. Subsequent alterations to the methodology have led to substantial downward revisions, including by the World Bank, of $14 to $20 billion a year,[30] which still amounts to about one quarter of the value of the marine fish catch, and subsidies are clearly a significant cause of overfishing and excess fishing capacity that requires further attention. The General Assembly, at its nineteenth special session in 1997, urged Governments to consider the positive and negative impact of subsidies on the conservation and management of fisheries through national, regional and appropriate international organizations, and based on those analyses to consider appropriate action.

C. International cooperation and coordination

45. The 1998 International Year of the Ocean and the world exposition on the oceans held at Lisbon in 1998 have provided a focus for worldwide attention to the riches of the oceans, as well as to the risks that threaten the sustainable use and enjoyment of their resources. In 1998, IWCO, chaired by former Portuguese President Mario Soares, completed its landmark report *The Ocean: Our Future*.[26] That report and other reports, seminars and conferences have looked at the concept of ocean governance as a particular priority, requiring attention at the international, regional and national levels, reflecting a growing consensus expressed by Governments, institutions and NGOs that the system currently in place may not be as effective as is needed to solve the multidimensional problems affecting the oceans.[31]

46. Based on the understanding that the problems of ocean space are closely interrelated and need to be considered as a whole, the United Nations Convention on the Law of the Sea provides the legal framework for chapter 17 of Agenda 21, as well as the foundation for a system of ocean governance. That integrated concept should be reflected in the way that the United Nations considers ocean issues; however, for some observers intergovernmental debate and actions are too fragmented, following the sectoral approach that identifies the different organizations in the United Nations system and that has developed over the years.

47. At the same time, the General Assembly undertakes an annual discussion of developments relating to oceans and seas under its newly expanded agenda item, "Oceans and the law of the sea"; however, this is traditionally scheduled for one day only and may not be sufficient for the task. There is some awareness that if the objectives of the Convention and chapter 17 are to be fulfilled, it will be necessary for the General Assembly to take a more active part in oceans governance, anticipating areas of concern and devising strategies to address them effectively. That view was expressed by several Member States at the fifty-third session of the Assembly[32] and at other recent forums, such as the Second London Oceans Workshop, which suggested that the General Assembly be invited to consider how the annual debate on oceans and the law of the sea could be broadened and better prepared.[3, 33]

48. Some observers have suggested that a new forum on oceans is required, such as a standing committee of the whole of the Assembly, to adequately prepare for and follow up on the annual debate. The Secretary-General of the International Seabed Authority, in his address to the Assembly in 1997, noted that the question had been raised in the meetings of the States Parties to the Convention, and that the need for an additional forum was self-evident. He went on to state that an appropriate forum was not yet available that allowed for full participation and broad exchange of views among all interest groups. There were economic and environmental and other groupings that felt that the discussion in the General Assembly on oceans-related matters was biased towards legal and political aspects, and that developments in other areas of interest, where major developments were taking place, were not adequately represented in the debate. The challenge for the General Assembly was how to respond to the various initiatives to devise a global forum that reflected that integrated approach.[34]

49. IWCO has proposed the convening, at an early opportunity, of a United Nations conference on ocean affairs to advance the process of change and innovation within the intergovernmental system. IWCO suggests that such a conference take as its basis the Convention and other relevant international treaties but that it not be a law-making body. IWCO also urges the establishment of a world ocean affairs observatory to independently monitor the system of ocean governance and exercise an "external watch" on ocean affairs, and proposes convening an independent world ocean forum representing civil society and all stakeholders. IWCO further suggests that a comprehensive review of the mandates and programmes of all United Nations bodies and agencies competent in ocean affairs be undertaken.[35]

50. The concept of the integrated management of ocean space has been before the international community for more than three decades. Ideas of how to manage the "common heritage of mankind" (the high seas beyond national jurisdiction) were put before the General Assembly back in 1967 by the Government of Malta, and the issue was relaunched by Malta's subsequent Foreign Minister and President of the forty-fifth General Assembly, who in 1990 proposed that the Trusteeship Council be given the new mandate of coordinating international protection of the common heritage, including the oceans and seas, the atmosphere and outer space. That new concept of trusteeship was endorsed by the Secretary-General in his July 1997 report on United Nations reform (see A/51/950, paras. 84 and 85).[36]

51. The generally sectoral nature of institutions working in ocean affairs, including United Nations organizations, has led to concerns about fragmentation and lack of coordination. Thus, the Commission on Sustainable Development, at its fourth session, in assessing the inter-

agency mechanism set up after UNCED to cover ocean issues, concluded that in order to address the need for improved coordination, the Secretary-General should be invited to review the working of the ACC Subcommittee on Oceans and Coastal Areas with a view to improving its status and effectiveness, including the need for closer inter-agency links between, *inter alia*, the secretariat of the Subcommittee and UNEP.[37] Pursuant to that decision, in 1997, the ACC Subcommittee elected the Director of the Water Branch of UNEP as its new Chairperson, who remained until her departure from UNEP in December 1998, while UNESCO/IOC has continued to provide its secretariat. The Director, Division for Ocean Affairs and the Law of the Sea of the United Nations Office of Legal Affairs serves as Vice-Chairman. The other core members currently include FAO, IMO, IAEA, the World Bank, WHO, WMO, UNIDO, UNDP and the Department of Economic and Social Affairs. The secretariat of the Convention on Biological Diversity, the International Hydrographic Organization and the International Council for the Exploration of the Sea have also participated in sessions of the Subcommittee.

52. It appears that a combination of communication difficulties between secretariats and staffing problems have weakened the coordinating role expected of the ACC Subcommittee in its work as Inter-Agency Committee on Sustainable Development (IACSD) task manager for chapter 17 and its preparations for the seventh session of the Commission. The draft report of the Secretary-General on oceans and seas, which was to be prepared by the Subcommittee, benefited from the inputs of only some of its member organizations. Information contained in the report on activities related to certain important issues is therefore not as complete and up-to-date as desired. The Commission may therefore wish to reiterate its request to the Secretary-General to review the working of the ACC Subcommittee on Oceans and Coastal Areas with a view to improving its effectiveness.

53. At its fourth session, the Commission also invited the Secretary-General and the executive heads of the agencies and organizations of the United Nations system sponsoring GESAMP to review the Group's terms of reference, composition and methods of work with a view to improving its effectiveness and comprehensiveness while maintaining its status as a source of agreed, independent scientific advice.[38] That recommendation was endorsed by the Second London Oceans Workshop in December 1998, which also urged that means be found for considering the economic and social aspects of the questions examined by GESAMP. IMO, as the administrative secretariat of GESAMP, has called an intersecretariat meeting in August 1999 to review the terms of reference of the Group together with its modus operandi in response to the Commission's recommendations. GESAMP generally carries out its activities through inter-sessional working groups. In 1996, the Group set up a working group on marine environmental assessments, with UNEP as lead agency, which is preparing an assessment of land-based activities for the year 1999. The next full assessment of the state of the marine environment is planned for 2002. GESAMP has also established cooperative mechanisms with the global international waters assessment, a four-year $13 million project funded by GEF, the Government of Sweden and others, and being implemented by UNEP, in areas of mutual interest within both review exercises.

Notes

[1] See *Official Records of the Economic and Social Council, 1996, Supplement No. 8* (E/1996/28), chap. I, sect. C., decision 4/15, para. 45 (a).

[2] See General Assembly resolution S-19/2, annex, para. 36.

[3] See report of the Co-Chairmen on the Second London Oceans Workshop, London, 10–12 December 1998.

[4] See Nadia Scialabba, ed., *Integrated Coastal Area Management and Agriculture, Forestry and Fisheries: FAO Guidelines* (Rome, FAO, 1998).

[5] Based on an FAO press release of 31 July 1998.

[6] See World Resources Institute, *World Resources, 1996–1997* (Oxford University Press, 1996), cited in Scialabba, op. cit., pp. 10 and 11.

[7] See World Resources Institute, International Centre for the Living Aquatic Resources Management, World Conservation Monitoring Centre and United Nations Environment Programme, *Reefs at Risk: A Map-based Indicator of Threats to the World's Coral Reefs* (Washington, D.C., 1998).

[8] See International Coral Reef Initiative, "Renewed call to action", annex, International Tropical Marine Ecosytems Management Symposium, Townsville, Australia, 23–26 November 1998. Information on coral bleaching provided by the Global Coral Reef Monitoring Network, a joint project of the United Nations Educational, Scientific and Cultural Organization (UNESCO) Intergovernmental Oceanographic Commission (IOC), the United Nations Environment Programme (UNEP) and the World Conservation Union (IUCN). The fourth meeting of the Conference of the Parties to the Convention on Biological Diversity (Bratislava, May 1998) also looked at this phenomenon and requested its Subsidiary Body on Scientific, Technical and Technological Advice to provide relevant information to the fifth meeting of the Conference of Parties to the Convention. It also invited the United Nations Framework Convention on Climate Change to urgently address the issue.

[9] As described by the United Nations-sponsored Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) in 1996.

[10] The Jakarta Mandate, included as part of the Ministerial Statement adopted by the second meeting of the Conference of the Parties to the Convention on Biological Diversity at Jakarta in November 1995, identifies as priority issues marine and coastal living resources, marine and coastal protected areas, mariculture and alien species.

[11] See Pan-African Conference on Sustainable Integrated Coastal Management, Maputo, 18–24 July 1998, summary record of the main conclusions and specific recommendations (Maputo, Ministry for Coordination of Environmental Affairs, 1998).

[12] See Cape Town Declaration on an African Process for the Development and Protection of the Coastal and Marine Environment, particularly in sub-Saharan Africa, adopted by the ACOPS Conference on Cooperation for Development and Protection of the Marine and Coastal Environment in sub-Saharan Africa, Cape Town, 30 November–4 December 1998; during the Conference, the United Kingdom Minister for International Development announced that his Government would fund a £20 million programme of support for small-scale fishing communities in 24 countries of West Africa.

[13] See FAO, "In-depth study: patterns of marine fishery landings and future prospects", Rome, 1997; also various FAO press releases, 1998. FAO calculations cover 200 major fish resources, accounting for 77 per cent of world marine fish landings.

[14] See paras. 261–265; the report also contains a comprehensive review by regions of the status of fisheries and conservation and management measures (paras. 266–292).

[15] See FAO, report of the first session of the Advisory Committee on Fisheries Research, Rome, 25–28 November 1997.

[16] See FAO, Committee on Fisheries, twenty-third session, Rome, 15–19 February 1999, document COFI/99/5, part III; and FAO, "The management of fishing capacity: a new but crucial issue for sustainable world fisheries", report to the ministerial meeting on the implementation of the Code of Conduct for Responsible Fisheries, Rome, 10 and 11 March 1999.

[17] See FAO, "The management of fishing capacity ...", para. 7.

[18] See, for example, "Gaps in sea laws shield pollution by cruise lines", *The New York Times*, 3 January 1999; the article dealt with a four-year-long case in United States courts against the Royal Caribbean Cruise Line, which eventually pleaded guilty to dumping oily wastes into the sea and was fined $9 million.

[19] See joint submission by the International Confederation of Free Trade Unions, the International Transport Federation and the Trade Union Advisory Committee to OECD, joined by Greenpeace International, 30 November 1998.

[20] See IMO, report of the Consultative Meeting of Contracting Parties to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter of 1972, London, 14–18 December 1998; other recent IMO activities are reported in IMO, Marine Environment Protection Committee, Report of IMO to the Commission on Sustainable Development, November 1998, background document.

[21] See IMO, report to the Commission on Sustainable Development at its fourth session, December 1995; *Official Records of the Economic and Social Council, 1996, Supplement No. 8* (E/1996/28), chap. I.C, decision 4/15, paras. 26–28; and IMO, report to the Commission at its sixth session.

[22] See *Official Records of the General Assembly, 1997, Supplement No. 25* (A/52/25), decision 19/14 A, para. 12.

[23] For further details, see UNEP, "Status report on implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities", report of the Executive Director (UNEP/GC.20/32); and progress report on implementation of the Global Programme of Action, submitted by UNEP to the Second London Oceans Workshop, London, 10–12 December 1998.

[24] See UNEP, "Consideration of further steps, timetable and modalities for the activities of the GPA coordination office at the Hague", discussion paper submitted to informal intergovernmental consultation on the Global Programme of Action, the Hague, 11 and 12 May 1998.

[25] See FAO, "In-depth study: patterns of marine fishery landings and future prospects" (1997), based on R. J. R. Grainger and S. M. Garcia, *Chronicles of Marine Fishery Landings (1950–1994): Trend Analysis and Fisheries Potential*, FAO Fisheries Technical Paper, No. 359 (Rome, 1996).

[26] See Independent World Commission on the Oceans, *The Ocean: Our Future* (Cambridge University Press, 1998), pp. 108–110.

[27] See ibid., pp. 199–201, based on various sources.

[28] See Marine Stewardship Council, *MSC News*, various issues, and background information; the MSC conference is entitled "Sustainable fisheries: options for the future", and will be held at the Regal United Nations Plaza Hotel in New York.

[29] See FAO, *Report of the Technical Consultation on the Feasibility of Developing Non-Discriminatory Technical Guidelines for Eco-Labelling of Products from Marine Capture Fisheries, Rome, 21–23 October 1998*, FAO Fisheries Report, No. 594.

[30] See FAO, *The State of Food and Agriculture* (Rome, 1992); and Matteo Milazzo, *Subsidies in World Fisheries: A Re-examination*, World Bank Technical Paper, No. 405 (1998); for a discussion of the various methodologies used in calculating subsidies as well as their relationship to international trade law, see Christopher D. Stone, "Too many fishing boats, too few fish: can trade laws trim subsidies and restore the balance in global fisheries?", *Ecology Law Quarterly*, vol. 24 (1997), No. 3, p. 505.

[31] The multidimensional nature of the oceans can be seen in the linkage between the marine and coastal environment and the high seas with overall security issues. As pointed out at two recent international conferences on oceans and security, it might be easier to mobilize the necessary political and economic infrastructure if the strategy to protect the world's oceans is conceived within the framework of ocean security:

economic security, food security, environmental security and political security. See Advisory Committee on Protection of the Sea (ACOPS), "Towards enhanced ocean security into the third millennium", report of the ACOPS/GLOBE conference on the theme "Towards enhanced ocean security into the third millennium", Stockholm, 31 January–2 February 1998, and the ACOPS conference on the theme "Oceans and security",Washington, D.C., 19–21 May 1997. The two conferences resulted in the Stockholm Action Strategy and the Potomac Declaration, respectively.

[32] See United Nations press releases GA/9513 and GA/9514 of 24 November 1998.

[33] The suggestion was also made to establish a mechanism similar to the Intergovernmental Panel on Climate Change to deal with ocean issues as a whole or marine pollution issues.

[34] See statement to the General Assembly by Satya N. Nandan, Secretary-General of the International Seabed Authority, 24 November 1998.

[35] See IWOC, op. cit., pp. 21–23 and 157–159. For a summary of the results of the work of IWCO, see A/53/524, annex. Separately, the World Youth Forum, held at Braga, Portugal, from 2 to 7 August 1998, adopted the World Youth Declaration on Oceans, confirming the responsibility of youth to take initiatives in implementing measures to help protect the oceans.

[36] For a comprehensive history of this debate, see Peter Bautista Payoyo, ed., *Ocean Governance: Sustainable Development of the Seas* (United Nations University Press, Tokyo, 1994), which contains the report of the *pacem in maribus* conference held in 1991. This annual conference of the International Ocean Institute was most recently held from 29 November to 3 December 1998 at Halifax, Canada, on the theme "The crisis of knowledge: new directions for learning and informed decision-making for oceans and coasts".

[37] See *Official Records of the Economic and Social Council, 1996, Supplement No. 8* (E/1996/28), chap. I., sect. C, decision 4/15, para. 45 (b).

[38] Ibid., para. 45 (c); the following bodies are sponsors of GESAMP: Division for Ocean Affairs and the Law of the Sea of the United Nations Secretariat, UNEP, FAO, UNESCO/IOC, WHO, WMO, IMO and IAEA.